10/729,598

STN STRUCTURE SEARCH 7.12.04

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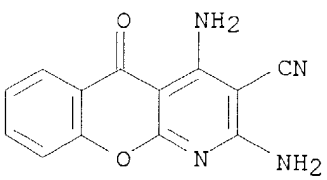
L4 ANSWER 1 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 2003:792450 CAPLUS
DOCUMENT NUMBER: 140:37863
TITLE: Specific and Potent Inhibition of NAD+-dependent DNA Ligase by Pyridochromanones
AUTHOR(S): Broetz-Oesterhelt, Heike; Knezevic, Igor; Bartel, Stephan; Lampe, Thomas; Warnecke-Eberz, Ute; Ziegelbauer, Karl; Haebich, Dieter; Labischinski, Harald
CORPORATE SOURCE: Pharma Research, Bayer Health Care, Department of Anti-Infectives, Bayer AG, Wuppertal, D-42096, Germany
SOURCE: Journal of Biological Chemistry (2003), 278(41), 39435-39442
CODEN: JBCHA3; ISSN: 0021-9258
PUBLISHER: American Society for Biochemistry and Molecular Biology
DOCUMENT TYPE: Journal
LANGUAGE: English

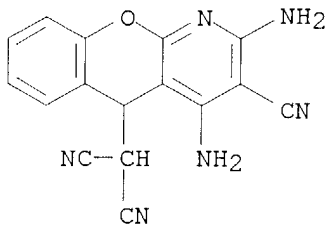
AB Pyridochromanones were identified by high throughput screening as potent inhibitors of NAD+-dependent DNA ligase from Escherichia coli. Further characterization revealed that eubacterial DNA ligases from Gram-neg. and Gram-pos. sources were inhibited at nanomolar concns. In contrast, purified human DNA ligase I was not affected (IC50 > 75 μM), demonstrating remarkable specificity for the prokaryotic target. The binding mode is competitive with the eubacteria-specific cofactor NAD+, and no intercalation into DNA was detected. Accordingly, the compds. were bactericidal for the prominent human pathogen Staphylococcus aureus in the low μg/mL range, whereas eukaryotic cells were not affected up to 60 μg/mL. The hypothesis that inhibition of DNA ligase is the antibacterial principle was proven in studies with a temperature-sensitive ligase-deficient E. coli strain. This mutant was highly susceptible for pyridochromanones at elevated temps. but was rescued by heterologous expression of human DNA ligase I. A physiol. consequence of ligase inhibition in bacteria was massive DNA degradation, as visualized by fluorescence microscopy of labeled DNA. In summary, the pyridochromanones demonstrate that diverse eubacterial DNA ligases can be addressed by a single inhibitor without affecting eukaryotic ligases or other DNA-binding enzymes, which proves the value of DNA ligase as a novel target in antibacterial therapy.

IT **635681-58-2**
RL: BSU (Biological study, unclassified); BIOL (Biological study) (pyridochromanones exhibit specific and potent inhibition of eubacterial NAD+-dependent DNA ligase but not human ATP-dependent DNA ligase I)
RN 635681-58-2 CAPLUS
CN 5H-[1]Benzopyrano[2,3-b]pyridine-3-carbonitrile, 2,4-diamino-5-oxo- (9CI) (CA INDEX NAME)



REFERENCE COUNT: 34 THERE ARE 34 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 2 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1997:698155 CAPLUS
DOCUMENT NUMBER: 128:3616
TITLE: Reactions of 2-oxo-2H-1-benzopyran-3-carbonitrile
AUTHOR(S): O'Callaghan, Conor N.; McMurry, T. Brian H.; O'Brien, John E.; Draper, Sylvia M.
CORPORATE SOURCE: Trinity Coll., Univ. Chemical Lab., Dublin, Ire.
SOURCE: Journal of Chemical Research, Synopses (1997), (9), 312-313
CODEN: JRPSDC; ISSN: 0308-2342
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 128:3616
AB Synthetic reactions of 2-oxo-2H-1-benzopyran-3-carbonitrile afford products which establish that partial or complete cleavage of the starting material occurs in the course of reaction.
IT **162335-50-4P**
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(reactions of oxobenzopyrancarbonitrile)
RN 162335-50-4 CAPLUS
CN Propanedinitrile, (2,4-diamino-3-cyano-5H-[1]benzopyrano[2,3-b]pyridin-5-yl)- (9CI) (CA INDEX NAME)



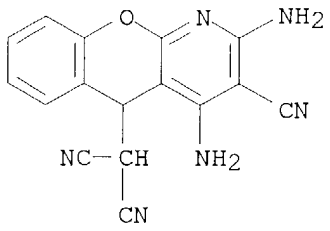
REFERENCE COUNT: 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L4 ANSWER 3 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1995:396637 CAPLUS
DOCUMENT NUMBER: 122:239664
TITLE: Synthetic reactions of 2-(2-amino-3-cyano-4H-[1]benzopyran-4-yl)propane-1,3-dinitrile with reactive methylene compounds
AUTHOR(S): O'Callaghan, Conor N.; McMurry, T. Brian H.; O'Brien, John E.
CORPORATE SOURCE: University Chemical Laboratory, Trinity College, Dublin, 2, Ire.
SOURCE: Journal of the Chemical Society, Perkin Transactions 1: Organic and Bio-Organic Chemistry (1995), (4), 417-20
CODEN: JCPRB4; ISSN: 0300-922X
PUBLISHER: Royal Society of Chemistry
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Derivs. of dibenzo[b,d]pyran, [1]benzopyran[2,3-b]pyridine, [1]benzopyrano[3,4-c]pyridine and [1]benzopyrano[4,3,2-de][1,6]naphthyridine were obtained from the reaction of 2-(2-amino-3-cyano-4H-[1]benzopyran-4-yl)propane-1,3-dinitrile with

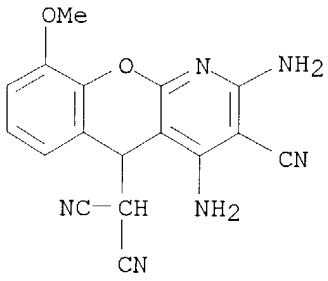
compds. containing a reactive methylene group. Consideration of these reactions suggest that the dicyanomethyl group is released from the 4-position of the starting material, and that it then reacts at the 2-position of the newly formed iminium ion. The 4-position is now available for Michael addition of a compound containing a reactive methylene group, but the nature of the final product depends on the substituents on the methylene group.

IT **162335-50-4P 162335-51-5P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 162335-50-4 CAPLUS
CN Propanedinitrile, (2,4-diamino-3-cyano-5H-[1]benzopyrano[2,3-b]pyridin-5-yl)- (9CI) (CA INDEX NAME)



RN 162335-51-5 CAPLUS
CN Propanedinitrile, (2,4-diamino-3-cyano-9-methoxy-5H-[1]benzopyrano[2,3-b]pyridin-5-yl)- (9CI) (CA INDEX NAME)



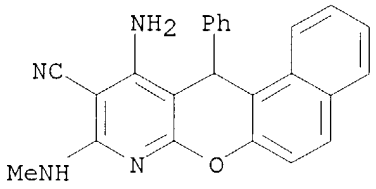
L4 ANSWER 4 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1991:449458 CAPLUS
DOCUMENT NUMBER: 115:49458
TITLE: Synthesis of some new heterocyclic compounds containing chromene
AUTHOR(S): Atalla, Ahmed A.; El-Dean, Adel M. Kamal; Harb, Abd El Fattah A.
CORPORATE SOURCE: Fac. Sci. Qena, Assiut Univ., Assiut, Egypt
SOURCE: Collection of Czechoslovak Chemical Communications (1991), 56(4), 916-22
CODEN: CCCCAK; ISSN: 0010-0765
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 115:49458
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

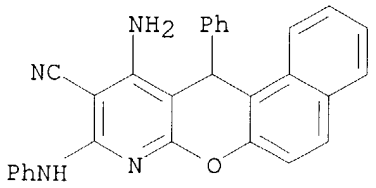
AB Benzo[f]chromene I (R = R1 = H) (II) was prepared by the cyclocondensation of β-naphthol with PhCH:C(CN)2. II was acetylated with Ac2O to give I (R = R1 = Ac). II was cyclized with HCONH2 to give pyrimido[4,5-b]benzo[f]chromene III, whereas the cyclization of II with NCCH2CO2Et gave pyrido[2,3-b]benzo[f]chromene IV. IV was cyclized with HCONH2 to give pyrimido[5',6':3,4]pyrido[5,6-b]benzo[f]chromene V, whereas the treatment of IV with POCl3 and P2S2 gave 3-substituted derivs. VI (R2 = Cl and SH, resp.). VI (R2 = SH) was alkylated with ClCH2CO2Et, phenacyl bromide, and ClCH2CONHPh to give the corresponding S-alkylated derivs., whereas VI (R2 = Cl) was treated with amines H2NR3 (R3 = Me, Ph, CH2CH2Ph) to give the appropriate amino compds. VI (R2 = NHR3). VI (R2 = Cl) was cyclized with NH2NH2 to give pyrazolo compound VII. Antibacterial activities were determined for the above compds.

IT **134484-32-5P 134484-33-6P 134484-34-7P**
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

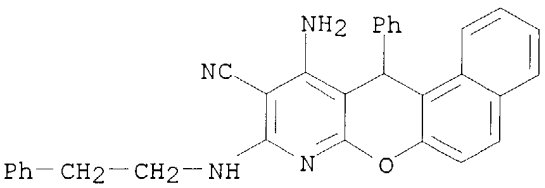
RN 134484-32-5 CAPLUS
CN 12H-Naphtho[1',2':5,6]pyrano[2,3-b]pyridine-10-carbonitrile, 11-amino-9-(methylamino)-12-phenyl- (9CI) (CA INDEX NAME)



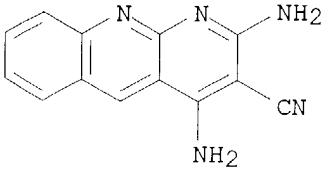
RN 134484-33-6 CAPLUS
CN 12H-Naphtho[1',2':5,6]pyrano[2,3-b]pyridine-10-carbonitrile, 11-amino-12-phenyl-9-(phenylamino)- (9CI) (CA INDEX NAME)



RN 134484-34-7 CAPLUS
CN 12H-Naphtho[1',2':5,6]pyrano[2,3-b]pyridine-10-carbonitrile, 11-amino-12-phenyl-9-[(2-phenylethyl)amino]- (9CI) (CA INDEX NAME)



L4 ANSWER 5 OF 5 CAPLUS COPYRIGHT 2004 ACS on STN
ACCESSION NUMBER: 1964:38730 CAPLUS
DOCUMENT NUMBER: 60:38730
ORIGINAL REFERENCE NO.: 60:6829f-h,6830f
TITLE: Syntheses with nitriles. VI. Quinolines and benzonaphthyridines
AUTHOR(S): Junek, H.
CORPORATE SOURCE: Univ. Graz, Austria
SOURCE: Monatshefte fuer Chemie (1963), 94(5), 890-6
CODEN: MOCMB7; ISSN: 0026-9247
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable
OTHER SOURCE(S): CASREACT 60:38730
GI For diagram(s), see printed CA Issue.
AB cf. CA 59, 6361b. The title compds. are prepared by the reaction of 2-O2NC6H4CHO (I) with NCCH2CN or NCCH2C(NH2):C(CN)2 (II), followed by reductive cyclization. Thus, 1 g. 2-nitro-α-cyanocinnamonitrile and 1.25 g. Fe in 20 ml. AcOH heated 1 hr. on a water bath gave, after filtration and addition of H2O, 83% 2-amino-3-quinolinecarbonitrile (III), m. 223° (C6H6). To 0.4 g. III in 30 ml. boiling dilute HCl was added 0.2 g. NaNO2 in 5 ml. H2O. The mixture was heated 15 min. and filtered off to give 62% 2-hydroxy-3-quinolinecarbonitrile, m. 310° (PhNO2). I (3 g.) and 2.6 g. II in 20 ml. EtOH was refluxed 1 hr. with 4 drops piperidine to give 70% 2-nitro-α-(1-amino-2,2-dicyanovinyl)cinnamonitrile (IV), m. 218° (AcOH-dioxane). IV (2.4 g.) in 40 ml. AcOH was boiled briefly with 2 g. Fe, and the solution decanted and heated 10 min. to give 98% V (R = R2 = NH2, R1 = CN) (VI), m. >300°. 2-H2NC6H4CHO (0.6 g.) and 0.7 g. II in 5 ml. AcOH heated 10 min. gave 67% VI. VI (0.4 g.) refluxed 10 min. with 10 ml. Ac2O gave VI Ac derivative, m. >300°. To 0.4 g. VI in 30 ml. hot, dilute HCl was added 0.2 g. NaNO2 in 5 ml. H2O, and the solution boiled 15 min. and filtered to give 50% V (R = OH, R1 = CN, R2 = NH2) (VII), m. >300° (PhNO2). VII (0.5 g.) in 3 ml. H2O was refluxed 2 hrs. with 3 ml. H2SO4. Cooling and dilution with ice water gave 89% V (R = R2 = OH, R1 = H), m. >300°. Likewise, 0.5 g. VI hydrolyzed with 3 ml. H2SO4 and 3 ml. H2O gave 45% V (R = OH, R1 = H, R2 = NH2), m. >300°.
IT **96953-31-0**, Benzo[b][1,8]naphthyridine-3-carbonitrile, 2,4-diamino-
(acetyl derivative)
RN 96953-31-0 CAPLUS
CN Benzo[b][1,8]naphthyridine-3-carbonitrile, 2,4-diamino- (7CI) (CA INDEX NAME)



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L3             11 S L1 FULL

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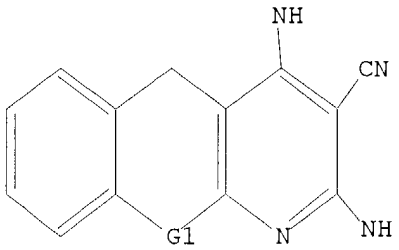


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G1 O,S,N

Structure attributes must be viewed using STN Express query preparation.

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PALM INTRANET

Day : Monday
Date: 7/12/2004
Time: 17:47:15

Inventor Name Search Result

Your Search was:

Last Name = ANDERSON
First Name = DAVID

Application#	Patent#	Status	Date Filed	Title	Inventor Name 51
60537841	Not Issued	020	01/21/2004	WIND NOISE REDUCTION FOR MICROPHONE	ANDERSON, DAVID
60509255	Not Issued	018	01/01/0001	STABILIZED UNCOATED PARTICLES OF REVERSED LIQUID CRYSTALLINE PHASE MATERIALS	ANDERSON, DAVID
60500495	Not Issued	020	09/05/2003	PROCESS TO ADD ADDITIONAL HARD DRIVE SPACE TO THE CUSTOMER'S EXISTING HARD DRIVE BY UNLOCKING THE SPACE WITH A USER ACCESSIBLE SECURITY CODE - THE UPGRADEABLE, EXPANDABLE HARD DRIVE	ANDERSON, DAVID W.
60499371	Not Issued	020	09/03/2003	CPU-CONTROLLED, REARMING ELECTRONIC ANIMAL TRAP WITH THREE-KILLING-PLATE CONFIGURATION	ANDERSON, DAVID L.
60498660	Not Issued	020	08/28/2003	HOUSING WITH INTEGRATED, SEALED SWITCH ASSEMBLY	ANDERSON, DAVID
60489421	Not Issued	020	07/23/2003	BRIDGED BETA-CARBOLINE COMPOUNDS AS MITOGEN-ACTIVATED PROTEIN KINASE-ACTIVATED PROTEIN KINASE-2 INHIBITORS	ANDERSON, DAVID R.
60489410	Not Issued	020	07/23/2003	BETA-CARBOLINE COMPOUNDS AND ANALOGUES THEREOF AND THEIR USE AS MITOGEN-ACTIVATED PROTEIN KINASE-ACTIVATED PROTEIN KINASE-2 INHIBITORS	ANDERSON, DAVID R.
60286287	Not Issued	159	04/25/2001	NOVEL DELTA SERRATE LIGAND RECEPTOR-LIKE PROTEINS AND	ANDERSON, DAVID A.

				NUCLEIC ACIDS ENCODING SAME	
60281850	Not Issued	159	04/05/2001	METHOD OF MARCHING SWING TYPE TO GOLF CLUB STYLE	ANDERSON, DAVID
60269649	Not Issued	159	02/14/2001	SNOWBOARD GROMMIE GRABBER	ANDERSON, DAVID STANLEY
60178686	Not Issued	159	01/28/2000	INTERNET TELEVISION CLIENT-SERVER ARCHITECTURE	ANDERSON, DAVID R.
10729598	Not Issued	030	12/05/2003	TRICYCLIC AMINOCYANOPYRIDINE INHIBITORS OF MITOGEN ACTIVATED PROTEIN KINASE-ACTIVATED PROTEIN KINASE-2	ANDERSON, DAVID R.
10728460	Not Issued	030	12/05/2003	METHOD OF USING AMINOCYANOPYRIDINE COMPOUNDS AS MITOGEN ACTIVATED PROTEIN KINASE-ACTIVATED PROTEIN KINASE-2 INHIBITORS	ANDERSON, DAVID R.
10704544	Not Issued	094	11/12/2003	ANIMAL TRAP	ANDERSON, DAVID L.
10704538	Not Issued	095	11/12/2003	ANIMAL TRAP	ANDERSON, DAVID L.
10688190	Not Issued	020	10/16/2003	SUBTERRANEAN TWO-WIRE POWER AND COMMUNICATIONS NETWORK	ANDERSON, DAVID J.
10687829	Not Issued	092	10/20/2003	CPU-CONTROLLED, REARMING, HIGH VOLTAGE OUTPUT CIRCUIT FOR ELECTRONIC ANIMAL TRAP	ANDERSON, DAVID L.
10685085	Not Issued	030	10/14/2003	NON-IONIC SURFACTANTS BASED UPON ALKYL POLYGLUCOSIDE	ANDERSON, DAVID
10681739	Not Issued	019	10/07/2003	THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHODS OF USE	ANDERSON, DAVID
10680618	Not Issued	030	10/07/2003	FUSE STRUCTURE AND METHOD TO FORM THE SAME	ANDERSON, DAVID K.
10680452	Not Issued	020	10/07/2003	CARTON STACKING APPARATUS AND METHOD	ANDERSON, DAVID L.
10670188	Not Issued	061	09/24/2003	GROWTH PROMOTION	ANDERSON, DAVID

					BENNETT
10668535	Not Issued	030	09/24/2003	AMPHOTERIC SURFACTANTS BASED UPON ALKYL POLYGLUCOSIDE	ANDERSON, DAVID
10662175	Not Issued	020	09/15/2003	ANTIMICROBIAL QUATERNARY SURFACTANTS BASED UPON ALKYL POLYGLYCOSIDE	ANDERSON, DAVID
10661025	Not Issued	030	09/11/2003	METHOD AND SYSTEM FOR REPRODUCTION IN A GENETIC OPTIMIZATION PROCESS	ANDERSON, DAVID M.
10659004	Not Issued	019	09/09/2003	THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHODS OF USE	ANDERSON, DAVID
10652783	Not Issued	020	08/29/2003	ROTARY REFRIGERATOR	ANDERSON, DAVID
10649301	Not Issued	041	08/27/2003	HETEROARYL-ETHANOLAMINE DERIVATIVES AS ANTIVIRAL AGENTS	ANDERSON, DAVID JOHN
10649208	Not Issued	019	08/27/2003	HETEROARYL-ETHANOLAMINE DERIVATIVES AS ANTIVIRAL AGENTS	ANDERSON, DAVID JOHN
10649202	Not Issued	041	08/27/2003	ARYL-ETHANOLAMINE DERIVATIVES AS ANTIVIRAL AGENTS	ANDERSON, DAVID JOHN
10646983	Not Issued	020	08/21/2003	REAL WORLD TRAFFIC	ANDERSON, DAVID
10640130	Not Issued	041	08/13/2003	INDEPENDENT RESET OF ARBITERS AND AGENTS TO ALLOW FOR DELAYED AGENT RESET	ANDERSON, DAVID L.
10638821	Not Issued	030	08/11/2003	DISTRACTION SCREW	ANDERSON, DAVID GREG
10637313	Not Issued	019	08/08/2003	THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHODS OF USE	ANDERSON, DAVID
10636815	Not Issued	030	08/08/2003	METHOD AND SYSTEM FOR SELECTIVELY PRESENTING DATABASE RESULTS IN AN INFORMATION RETRIEVAL SYSTEM	ANDERSON, DAVID J.
10635398	Not Issued	018	08/06/2003	NOVEL PROTEINS AND NUCLEIC ACIDS ENCODING SAME	ANDERSON, DAVID
10635149	Not Issued	019	08/06/2003	THERAPEUTIC POLYPEPTIDES, NUCLEIC ACIDS ENCODING SAME, AND METHODS OF USE	ANDERSON, DAVID

10632662	Not Issued	071	08/01/2003	SYSTEMS AND METHODS FOR OVERCOMING STICTION USING A LEVER	ANDERSON, DAVID PAUL
10631577	Not Issued	030	07/31/2003	HETEROCYCLE CARBOXAMIDES AS ANTIVIRAL AGENTS	ANDERSON, DAVID JOHN
10631275	Not Issued	020	07/31/2003	POLYMER COATED GUIDEWIRE	ANDERSON, DAVID M.
10631274	Not Issued	020	07/31/2003	DISTALLY TAPERED GUIDE WIRE TIP	ANDERSON, DAVID M.
10624498	Not Issued	089	07/23/2003	COATED PARTICLES, METHODS OF MAKING AND USING	ANDERSON, DAVID
09873155	Not Issued	071	06/01/2001	ANTIBODIES THAT BIND NEURON RESTRICTIVE SILENCER FACTOR PROTEINS	ANDERSON, DAVID J.
09867366	Not Issued	041	05/29/2001	RESIZING INTERNET DOCUMENT FOR DISPLAY ON TELEVISION SCREEN	ANDERSON, DAVID R.
09849869	Not Issued	041	05/04/2001	PAIN SIGNALING MOLECULES	ANDERSON, DAVID J.
09840926	6676036	150	04/25/2001	METHODS AND APPARATUS PROVIDING DUAL ADVANCE OF A FLUID EJECTOR SYSTEM RELATIVE TO A RECEIVING MEMBER	ANDERSON, DAVID G.
09792794	Not Issued	041	02/23/2001	THERMOPLASTIC SEAM WELDS	ANDERSON, DAVID M.
09474644	6510434	150	12/29/1999	SYSTEM AND METHOD FOR RETRIEVING INFORMATION FROM A DATABASE USING AN INDEX OF XML TAGS AND METAFILES	ANDERSON, DAVID
09470874	Not Issued	041	12/22/1999	COMPOSITE GUIDEWIRE WITH DRAWN AND FILLED TUBE CONSTRUCTION	ANDERSON, DAVID M.
09453757	Not Issued	161	12/02/1999	LABELING APPARATUS WITH AIR-ASSISTED LABEL SEPARATION FROM THE LABEL CARRIER STRIP AND ASSOCIATED METHODS	ANDERSON, DAVID N.
09452563	6325766	150	12/01/1999	GUIDEWIRE HAVING SUBSTANTIALLY NICKEL-FREE HIGH-NITROGEN AUSTENITIC STAINLESS STEEL ALLOY	ANDERSON, DAVID

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Anderson	David R.

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